

Application No. 10/667,238
Response to Office Action of March 26, 2008

REMARKS/ARGUMENTS

Claims 10-13 are cancelled. Claims 24-27 are added. Claims 1-2, 5, 7-9, and 14-27 remain pending. Claim 1 has been amended to include the embodiments of original Claims 10-13. Claims 19 and 21-23 have been amended to correct minor typographical errors and for clarity. Support for new claims 24-26 is found at page 4, lines 8-9, of the originally filed specification and page 7, lines 1-5, of the originally filed specification. Support for new Claim 27 is found at page 10-14, of the originally filed specification. No new matter is believed to be added by the amendment.

Applicants thank Examiner Fortuna for his detailed explanation of the rejections and for his suggestions in the Outstanding Office Action. Applicants respectfully request consideration of the remarks below.

The rejections of Claims 1-2, 5, and 7-23 under 35 U.S.C. §103 over US Patent No. 3,112,214 (US'214) is believed to be obviated by the amendment above combined with the remarks below. Further, new Claims 24-27 are believed to be patentable in view of the amendment above combined with the remarks below.

US'214, at best, discloses pre-treating a cellulose sheet with a first solution containing at least 1% borax, drying, then sizing the dried pre-treated sheet with a

Application No. 10/667,238
Response to Office Action of March 26, 2008

very specific modified starch derivative having from 0.01 to 3.0 acyclic vic.-glycol groups per anhydroglucose unit within the starch.

The claimed invention relates to a paper or paperboard containing a paper web that contains cellulosic fibers, starch and a boron-containing compound at an amount that is equal to or less than about 7% by weight of the starch where greater than 50% of the total amount of starch and boron-containing compound is located at or near the surfaces of the web, as well as methods of making the same. In direct contrast, to US'214, the claimed invention specifies that the starch is at least one starch selected from the group consisting of anionic starch, cationic starch, amphipathic starch, corn starch, wheat starch, potato starch, rice starch, tapioca starch, and sago starch. The claimed invention does not include modified starches as described in US'214.

US'214 does not disclose, much less suggest, the claimed invention. This is because US'214 discloses that a specific modified starch derivative having from 0.01 to 3.0 acyclic vic.-glycol groups per anhydroglucose unit must be used to impart superior surface properties, particularly in reference to ink and oil-holdout, of the paper substrate (See Column 2, lines 56-58). One reading US'214 would not be motivated to modify US'214 towards the claimed invention because US'214 specifically teaches that a very specific modified starch derivative having from 0.01 to 3.0 acyclic vic.-glycol groups per anhydroglucose is required. Further, the skilled

Application No. 10/667,238
Response to Office Action of March 26, 2008

artisan reading US'214 would not have any expectation of success to achieve superior surface properties, particularly in reference to ink and oil-holdout, of the paper substrate by using a starch other than the very specific modified starch derivative having from 0.01 to 3.0 acyclic vic.-glycol groups per anhydroglucose. Finally, even the KSR Court has indicated that common sense and the level of ordinary skill in the art can not be relied upon to modify a reference when the reference, itself, clearly teaches away from the claimed invention. See *KSR v. Teleflex*, 550 U.S. __, 82 USPQ2d 1385 (2007)).

In order to establish a *prima facie* case of obviousness, the Office has the burden of demonstrating that all elements of the claims are disclosed and/or suggested by the references relied upon. In light of the above, US'214 does not disclose the claimed invention because it fails to disclose at least one starch selected from the group consisting of anionic starch, cationic starch, amphipathic starch, corn starch, wheat starch, potato starch, rice starch, tapioca starch, and sago starch. Further, there is no possible way that the skilled artisan reading US'214 would be motivated with any expectation of success to modify the disclosure of US'214 by replacing the very specific starch discloses as critical therein with at least one starch selected from the group consisting of anionic starch, cationic starch, amphipathic starch, corn starch, wheat starch, potato starch, rice starch, tapioca starch, and sago starch. To do so, would tear at the very fabric of the teachings within US'214. Therefore, reliance upon

Application No. 10/667,238
Response to Office Action of March 26, 2008

the disclosure of US'214 does not support a *prima facie* case of obviousness and the Office fails to meet its burden. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

It is noted that the Office has indicated that only pending Claim 2 of the immediate application is limited to the way the additives are added. However, Applicants respectfully submit that the Office is in error. Many of the present claims specify the way the additives are added, including method claims. Further, method Claims 16, 17, 19 and 20 not only specify the way the additives are added, but also specify that slurry (i.e. a pre-mixture) of the starch and the boron-containing compound is added to the web and/or furnish. Applicants respectfully submit that these claims are allowable over US'214 because Applicants maintain the argument that US'214 discloses that the sheet must be pre-treated and/or impregnated with an aqueous solution of borax and then dried prior to surface sizing with the specific starch adduct (see Column 2, lines 9-13 and 58-66 of US'214). Applicants again direct the Office's attention to Claims 16-17, and 19-20, and note that these claimed embodiments require that the boron-containing compound and the starch to be pre-mixed and then contacted with the sheet or furnish. Again, claims 16-17 and 19-20 are method claims. US'214 clearly teaches away from pre-mixing the borax with the specific starch adduct at all as discussed above (see Column 2, lines 9-13 and 58-66 of

Application No. 10/667,238
Response to Office Action of March 26, 2008

US'214). Accordingly, US'214 can not possibly disclose or suggest the embodiments of Claims 16-17, and 19-20 because US'214 teaches away from such claims.


For all of the above reasons, Applicants respectfully request that the above-mentioned rejections be withdrawn.

Application No. 10/667,238
Response to Office Action of March 26, 2008

RECEIVED
CENTRAL FAX CENTER
JUL 28 2008

Applicants respectfully submit that the present application is now in condition for allowance. Favorable reconsideration is respectfully requested. Should anything further be required to place this application in condition for allowance, the Examiner is requested to contact below-signed by telephone.

Please charge the amount of \$120.00 required for the request for extension of time to our Deposit Account No. 09-0525. In the event any variance exists between the amount enclosed and the Patent Office charges for filing the above-noted documents, including any fees required under 37 C.F.R. 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, please charge or credit the difference to our Deposit Account No. 09-0525. Further, if these papers are not considered timely filed, then a petition is hereby made under 37 C.F.R. 1.136 for the necessary extension of time.

Correspondence Client Number: 01726	Respectfully Submitted, 	
(513) 248-6736 (phone) (513) 248-6445 (fax)	Registration No.	Thomas W. Barnes III, Ph.D. 52,595